Contact Information

Pre-registration is required by mail, fax, or phone.

To register, please contact:

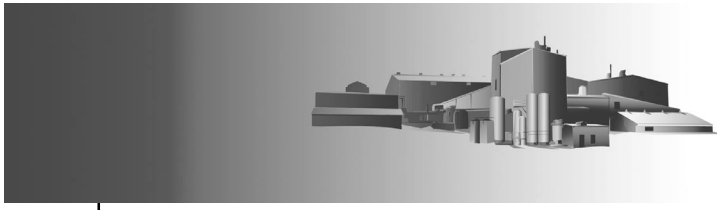
Sandy Glatt
U.S. Department of Energy
1617 Cole Blvd.
Golden, CO 80401-3393
Phone: 303-275-4857
Fax: 303-275-4830

This industrial training workshop is free of charge due to the sponsorship by:

- Denver Water
- Department of Energy - Denver Regional Office
- Governors Office of Environmental Management and Conservation

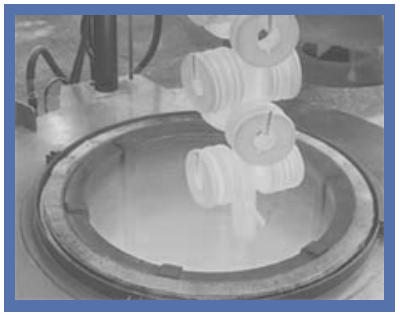
A Strong Energy Portfolio for a Strong America Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

U.S. Department of Energy
Energy Efficiency and Renewable Energy
1000 Independence Ave., S.W.
Washington, D.C. 20585



Pump Systems Assessment Tool (PSAT)

industrial training workshop



Denver, CO

September 26, 2003

U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Overview

Developed for the U.S. DOE, the Pump Systems Assessment Tool (PSAT) calculates the energy and cost savings you can recover from pump system optimization. After quickly assessing existing pump and motor efficiency, PSAT calculates final results based on algorithms from Hydraulic Institute standards and motor performance characteristics from the MotorMaster database.

After completing this training session, you will understand how PSAT can help you determine the best configuration for your pump systems.

Instructor

Your PSAT Instructor will be Michael Kostrzewa, Research Associate at Colorado State University (CSU) and Assistant Director of the CSU Industrial Assessment Center. Mike is a Professional Engineer in the State of Colorado and is a member of the American Society of Mechanical Engineers. He is also on the Governors Pollution Prevention Advisory Board.

Agenda

8:00 Continental Breakfast (Courtesy of Denver Water)

8:00 - 12:00 Morning Session

- Motor system asset management
- Fluid systems
  - Fundamental fluid relationships,
  - Static and dynamic head
  - Sources of friction
- Pump performance characteristics
  - Head
  - Power
  - Efficiency versus flow rate
  - Affinity laws
- Motor performance
  - Current
  - Power factor
  - Input power
  - Efficiency versus load
- ASD performance
  - Efficiency versus speed and load
  - Effect on motor and pump
- Developing a system performance curve based on field measurements
- Calculating system and pump heads
- Evaluating pump condition from fluid measurement

12:00 - 1:00 Lunch (Own your own, cafeteria on premises)

1:00 - 4:00 Afternoon Session

- Informal discussion may cover topics such as:
  - Available and required pump net positive suction head
  - The effects of scale buildup in piping systems
  - More detail on motor performance and reliability issues ranging from motor bearing problems to drive overvoltage tips

Optimize your pump systems and reduce energy costs...

Registration Form

Please register me for the *Pump Systems Assessment Tool* workshop on:

☐ September 26, 2003

First Name _____ Last Name _____

Company Name _____

Street Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

Email Address _____

Location

The Pump Systems Assessment Tool workshop will be held at:

Denver Water
1600 West 12th Avenue
Denver, CO 80204